

BLACK WALNUT HARBOR, MD.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

WITH A LETTER FROM THE CHIEF OF ENGINEERS, REPORTS ON
PRELIMINARY EXAMINATION AND SURVEY OF BLACK WALNUT
HARBOR, MD.

JANUARY 20, 1915.—Referred to the Committee on Rivers and Harbors and ordered
to be printed, with illustration.

WAR DEPARTMENT,
Washington, January 19, 1915.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith a letter from the Chief
of Engineers, United States Army, dated 18th instant, together with
copies of reports from Col. Lansing H. Beach, Corps of Engineers,
dated July 7, 1913, and December 5, 1914, with map, on preliminary
examination and survey, respectively, of Black Walnut Harbor,
Md., made in compliance with the provisions of the river and harbor
act approved March 4, 1913.

Very respectfully,

LINDLEY M. GARRISON,
Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, January 18, 1915.

From: The Chief of Engineers, United States Army.

To: The Secretary of War.

Subject: Preliminary examination and survey of Black Walnut
Harbor, Md.

1. There are submitted herewith, for transmission to Congress,
reports dated July 7, 1913, and December 5, 1914, with map, by
Col. Lansing H. Beach, Corps of Engineers, on preliminary examina-

tion and survey, respectively, of Black Walnut Harbor, Md., authorized by the river and harbor act approved March 4, 1913.

2. Black Walnut Harbor is a cove at the southern end of Tilghman Island, Chesapeake Bay. Interested parties desire a channel leading into the harbor with a suitable anchorage basin, in order to increase and facilitate the commerce of the locality and provide a harbor of refuge for vessels during severe weather. The district officer submits several plans of improvement, with estimates ranging from \$46,500 for a channel and interior anchorage 6 feet deep to \$165,000 for an outer anchorage protected by jetties. In view of the high cost involved, the district officer is of opinion that the locality is not worthy of improvement. The division engineer concurs in this opinion.

3. These reports have been referred, as required by law, to the Board of Engineers for Rivers and Harbors, and attention is invited to its report herewith, dated January 5, 1915, concurring in the views of the district officer and division engineer.

4. After due consideration of the above-mentioned reports, I concur in the views of the district officer, the division engineer, and the Board of Engineers for Rivers and Harbors, and therefore report that the improvement by the United States of Black Walnut Harbor, Md., is not deemed advisable at the present time.

DAN C. KINGMAN,
Chief of Engineers, United States Army.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS ON SURVEY.

[Third indorsement.]

THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
January 5, 1915.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. The following is submitted in review of the district officer's reports on preliminary examination and survey of Black Walnut Harbor, Md., authorized by the act of March 4, 1913.

2. Black Walnut Harbor is a cove in the southern end of Tilghman Island, in Chesapeake Bay, near the settlements of Fairbank and Island City. It is quite shallow, the depth generally being less than 3 feet. The range of tide is 1.4 feet. All freight is now lightered with small boats from larger vessels, which lie in about 8 feet of water about one-half mile from the only wharf. The commerce reported for the whole locality amounts to about 5,900 tons of a miscellaneous character.

3. The improvement desired is an anchorage basin in the cove adjacent to Fairbank, with a channel leading thereto. Several plans of varying scope are presented, with estimates ranging from \$46,500 for a channel and interior anchorage 6 feet deep to \$165,000 for an outer anchorage protected by jetties. In view of the high cost involved, the district officer is of opinion that the locality is unworthy of improvement. The division engineer concurs in this view.

4. Interested parties were informed of the adverse report of survey of the district officer and given an opportunity of presenting statements and arguments to the board, but no communications on the subject have been received.

5. This harbor is but $1\frac{1}{2}$ miles from the harbor at Avalon, which has a regular steamboat service to and from Baltimore. An additional harbor would be of advantage to the owners of a large number of small craft which seek anchorage at Black Walnut Harbor, but the cost of an adequate improvement appears excessive when compared with the commerce involved and the probable resulting benefits. The board, therefore, concurs with the district officer and the division engineer, and reports that in its opinion it is not advisable at this time for the United States to undertake the improvement of Black Walnut Harbor, Md.

6. In compliance with law, the board reports that there are no questions of terminal facilities, water power, or other subjects which could be coordinated with the project proposed in such manner as to render the improvement advisable in the interests of commerce and navigation.

For the board:

W. M. BLACK,
Colonel, Corps of Engineers,
Senior Member of the Board.

PRELIMINARY EXAMINATION OF BLACK WALNUT HARBOR, MD.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
Baltimore, Md., July 7, 1913.

From: The District Engineer Officer.

To: The Chief of Engineers, United States Army
(Through the Division Engineer).

Subject: Preliminary examination of Black Walnut Harbor, Md.

1. In compliance with department letter of March 18, 1913, the following report is submitted on the preliminary examination of Black Walnut Harbor, Md., as provided for in the river and harbor act of March 4, 1913.

2. Black Walnut Harbor is at the southern end of Tilghman Island, a strip of land about 1 mile wide and 3 miles long between Chesapeake Bay and the Choptank River, on the Eastern Shore of Maryland. The harbor is a cove extending northerly from the Choptank River between two points of land, which protect it against westerly and easterly weather. It is about three-eighths of a mile wide at the mouth and about five-eighths of a mile in length. The upper portion is separated into two prongs by a small point of land, on which is situated the settlement of Fairbank. The only wharf in the locality is a small bulkheaded area at Fairbank, containing a frame storehouse, without freight handling devices, and free to the use of all. The harbor is quite shallow throughout its entire area; it does not appear to have anywhere a depth of as much as 6 feet, while its general mean low-water depth is less than 3 feet. There is a rise and fall of tide of 1.4 feet. The locality was the subject of an unfavorable

report on preliminary examination under date of September 1, 1892; see Report of the Chief of Engineers, United States Army, 1893, Part II, page 1239.

3. Interested parties state that the area tributary to this cove is the whole of Tilghman Island, containing the settlements of Fairbank, Island City, Avalon, and Tilghman, with a population of about 1,500. At Fairbank and Island City there are 3 general merchandise stores, 1 blacksmith and boat-building shop, and 18 firms engaged in fishing, oystering, and crabbing. At Avalon there are 11 merchandise stores, 1 drug store, 1 bakery, 5 packing houses, and 5 firms engaged in oystering, crabbing, and fishing. Wheat, tomatoes, potatoes, berries, and fruit are produced to some extent.

4. There are 25 sailing craft of from 3 to 4 feet draft and 25 of from 4 to 8 feet draft regularly using the harbor and its approach, and about 50 more which go there during the fishing season. In addition, there are about 30 gasoline boats of various sizes in daily use. The 8-foot contour is over one-half a mile from the wharf, which only the smallest craft can reach, all freight to and from the larger vessels having to be lightered in small flat boats between them and the shore. The nearest railroad station is at McDaniel, between 11 and 12 miles distant.

5. The commerce of the locality is given as follows:

	Tons.	Value.		Tons.	Value.
INCOMING.			OUTGOING.		
Coal.....	200	\$1,400	Wheat.....	300	\$10,000
Fertilizer.....	100	2,500	Fruits and berries.....	2	200
Lime.....	200	1,200	Potatoes.....	18	240
Building sand.....	100	100	Tomatoes.....	500	5,000
Cement.....	150	1,800	Salt fish.....	62½	2,500
Building materials, bricks, lumber, etc.....	150	3,000	Fresh fish.....	120	4,800
Breakwater stone.....	100	200	Crabs.....	150	6,000
Hay.....	50	1,250	Oysters.....	3,187½	30,000
Corn.....	25	625			
Bran, mill feed, meal, etc.....	50	1,500	Total.....	4,340	58,740
Cordwood.....	200	1,200			
General merchandise.....	150	7,500			
Gasoline.....	30	1,200			
Oils.....	65	6,500			
Mail matter.....	1			
Total.....	1,571	29,975			

6. The people of the locality desire a channel 10 feet deep at mean low water and 100 feet wide, with an anchorage basin near the wharf at Fairbank 300 feet by 500 feet, and state that the prospective benefits of such an improvement are: A great increase in the amount of tonnage; a decrease in freight rates; the establishment of a crab factory; direct daily steamboat communication with Annapolis, Md., and the establishment of a marine railway; also that such channel and anchorage would afford a harbor of refuge during severe winter weather when vessels and the lives of their owners are placed in jeopardy by lack of harbor.

7. An appropriation has been made for an anchorage at Avalon, about 1½ miles north of Black Walnut Harbor and claimed to be tributary to it. There is almost daily steamboat connection in both directions between Avalon and Baltimore. The project adopted for Avalon, under the name of Tilghman Island is, however, satisfactory to no one, and the river and harbor act of March 4, 1913,

directed a reexamination of the Avalon water front with a view of obtaining a plan which would be more in harmony with the business interests involved. As a refuge anchorage, Black Walnut Harbor would be superior to Avalon, but for purposes of transportation Avalon is more central to the general business of Tilgham Island than Fairbank. A channel 10 feet deep at Black Walnut Harbor would extend beyond the cove or small bay and into open water, with the probable result of rapid deterioration unless protected by jetties or dikes. Owing to the proximity of Avalon and the inadvisability of providing harbors so close together, and the probable heavy cost of a permanent channel at Black Walnut Harbor, the locality is not regarded as worthy at this time of improvement by the United States.

8. There are no questions of water-power development or land reclamation that could be considered in conjunction with an improvement of this waterway. There are no bridges over the harbor.

9. A sketch map¹ of the locality, taken from a coast survey chart, accompanies this report.

LANSING H. BEACH,
Colonel, Corps of Engineers.

[First indorsement.]

OFFICE OF DIVISION ENGINEER, EASTERN DIVISION.
New York, July 9, 1913.

To the CHIEF OF ENGINEERS:

Concurring in the recommendations of the district engineer officer.

W. M. BLACK.
Colonel, Corps of Engineers.

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
October 14, 1913.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. In this report on preliminary examination the district officer states that the people of the locality desire a channel 10 feet deep at mean low water and 100 feet wide, with an anchorage basin near the wharf of Fairbank 300 feet by 500 feet. With reference to such an improvement, it is stated that the 10-foot channel would extend beyond the cove, or small bay, and into open water, with the probable result of rapid deterioration unless protected by jetties or dikes. In view of the probably large cost of such work, the district officer reports the locality as unworthy of improvement by the United States.

2. As a result of his notice to interested parties of the unfavorable character of his report, a delegation of citizens from the locality and Hon. J. Harry Covington, Member of Congress, came before a committee of the board on September 24, 1913, and stated that the interests concerned would be fully satisfied with a much less extensive improvement than that considered by the district officer; that all they now request is a channel about 7 feet deep at mean low water, and perhaps 50 feet in width, extending up into the cove, with a small turning basin at the head; and that it was not necessary for the channel

¹ Not printed.

or basin to reach the wharf, as the improvement was desired more particularly for the safety of the many small vessels seeking shelter there.

3. Such an improvement would obviously be much less expensive in first cost and in subsequent maintenance than the one discussed by the district officer, and from its consideration of the subject the board believes that a knowledge of the cost of an improvement along the lines now suggested by local interests is necessary in order to determine its advisability, and therefore it is recommended that the district officer be authorized to make the necessary survey and submit further report and recommendation.

For the board:

W. M. BLACK,
Colonel, Corps of Engineers,
Senior Member of the Board.

SURVEY OF BLACK WALNUT HARBOR, MD.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
Baltimore, Md., December 5, 1914.

From: The District Engineer Officer.

To: The Chief of Engineers, United States Army
(Through the Division Engineer).

Subject: Survey of Black Walnut Harbor, Md.

1. In compliance with department letter of October 17, 1913, the following report is submitted on the survey of Black Walnut Harbor, Md.

2. The field work was performed in February and March, 1914 and the results are shown on the accompanying map. The survey covered the entire area of the cove, and extended to the curve of 9 feet depth in the Choptank River. A tide gauge and bench marks were established by running a line of checked levels from Avalon where a Coast and Geodetic Survey bench and tide gauge are established.

3. The bottom consists of soft mud, excepting at the mouth of the cove, where it is of hard sand. This mud is very soft and fluid for a distance of between 2 and 3 feet below the bottom, and is of such character that it would tend to move into any deeper trench or basin that might be dredged, thus causing rapid shoaling and excessive maintenance costs until a very large proportion of this soft material throughout the cove had been removed.

4. The parties desiring the improvement, and at whose instigation the preliminary examination was ordered, stated that the preferable position for the harbor was in the easterly prong of the cove, practically as shown by the lines A, C, E, G, H, J, O. This would provide an entrance channel 100 feet wide with an anchorage basin sufficiently large to accommodate about 300 vessels of the class that would use this locality as a harbor of refuge. It is stated that this number of small craft have been as nearly in Black Walnut Harbor at one time as it was possible to get, even under present conditions. During the time that the survey party was at the locality there were at times as many as 65 craft anchored off the harbor at one time, without being under stress of weather. The

western prong of the harbor was not regarded as satisfactory for a harbor of refuge on account of its smaller area and also greater exposure to southeast winds. A depth of 7 feet was desired, if possible, while that of at least 6 feet was regarded as necessary.

5. The estimate for a channel 7 feet deep and 100 feet wide, with an anchorage basin at the upper end following the lines A, C, E, G, H, J, O, with an allowance for side slopes and 1 foot overdepth, is as follows:

575,000 cubic yards, scow measurement, at 20 cents.....	\$115, 000
Engineering, superintendence, and contingencies, 10 per cent.....	11, 500
	<hr/> 126, 500

The estimate for a similar channel and basin 6 feet deep is:

485,000 cubic yards, scow measurement, at 20 cents.....	\$97, 000
Engineering, superintendence, and contingencies, 10 per cent.....	9, 700
	<hr/> 106, 700

As the cost of this work appears very large, an estimate was made for an improvement with a reduced anchorage basin, as represented by the lines A, C, E, F, I, J, O. The dredging of this area 6 feet deep at mean low water, with an allowance for side slopes and 1 foot overdepth, is:

11,000 cubic yards, scow measurement, at 20 cents.....	\$42, 200
Engineering, superintendence, and contingencies, about 10 per cent.....	4, 300
	<hr/> 46, 500

6. To see if the desired harbor could not be secured in another way, an estimate was made for an anchorage basin at the entrance to the harbor, as shown by the lines A, B, L, M, N, O, which, however, would have to be protected by jetties or dikes in positions approximately as shown on the map. The cost of this basin 6 feet deep at mean low water, with an allowance for 1 foot overdepth and side slopes, is:

5,000 cubic yards, scow measurement, at 20 cents.....	\$81, 000
Engineering, superintendence, and contingencies, about 10 per cent.....	9, 000
	<hr/> 90, 000

The estimates for jetties are as follows:

FOR STONE JETTIES.

West side:	
8,000 cubic yards of stone, in place, at \$4.....	\$32, 000
Engineering, superintendence, and contingencies, about 10 per cent.....	3, 000
	<hr/> \$35, 000
East side:	
9,000 cubic yards of stone, in place, at \$4.....	36, 000
Engineering, superintendence, and contingencies, about 10 per cent.....	4, 000
	<hr/> 40, 000
Total for two stone jetties.....	<hr/> 75, 000

FOR TIMBER JETTIES.

West side:	
1,475 linear feet of pile structure, at \$12 per foot.....	\$17, 700
Engineering, superintendence, and contingencies, about 10 per cent.....	1, 800
	<hr/> 19, 500

Stone apron 1 to 6 feet wide:		
800 cubic yards of stone, in place, at \$4.....	\$3, 200	
Engineering, superintendence, and contingencies, about 10 per cent.....	300	\$3, 500
		<u>23, 000</u>
East side:		
1,525 linear feet of pile structure, at \$12 per foot.....	18, 300	
Engineering, superintendence, and contingencies, about 10 per cent.....	1, 700	20, 000
Stone apron 1 to 7 feet wide:		
900 cubic yards of stone, in place, at \$4.....	3, 600	
Engineering, superintendence, and contingencies, about 10 per cent.....	400	4, 000
		<u>24, 000</u>
Total for two timber jetties.....		47, 000
Pile jetties are, however, regarded as inadvisable, both on account of the action of the teredo and the damage that would be done by ice. The outer harbor of refuge, including the stone jetties, is therefore estimated to cost as follows:		
For dredging.....		\$90, 000.
For jetties.....		75, 000
		<u>165, 000</u>

7. If any plan is to be adopted, the improvement formed by dredging the area A, C, E, F, I, J, O, is regarded as the most practicable. The cost of maintenance can not be stated with any accuracy, as there are no data available on which to base an estimate, but it will certainly be proportionately large for the first few years as the soft mud flows into the dredged area, gradually diminishing as this loose material is taken from the larger portion of the harbor.

8. If any appropriation be made, it should preferably be provided in one sum, but owing to the amount of money involved for the improvement and the probable high cost of maintenance, it is not believed that Black Walnut Harbor, Md., is worthy of improvement at this time by the United States.

9. Nothing further bearing on the merits of the case, in addition to the statements given above and in the preliminary examination report, has been developed.

10. As stated in the preliminary examination report, there are no questions of water power, terminal facilities, or other subjects so related to the proposed improvement as to be considered in connection therewith to lessen the cost.

LANSING H. BEACH,
Colonel, Corps of Engineers.

[First indorsement.]

OFFICE OF DIVISION ENGINEER, EASTERN DIVISION,
New York City, December 7, 1914.

To the CHIEF OF ENGINEERS:

Concurring in the views of the district engineer-officer.

W. M. BLACK,
Colonel, Corps of Engineers.

[For report of the Board of Engineers for Rivers and Harbors on survey, see page 2.]



